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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,034	04/24/2001	Sung Min Kim	EZ1 117	4269

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EXAMINER

CHANEY, CAROL DIANE

ART UNIT	PAPER NUMBER
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1745

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DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,034

Applicant(s)

KIM ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Examples of non-standard English found in the specification include:

[0063] Referring to FIG. 6, ...In this case, the film type anode electrode 600, first insulating film 602, film type cathode electrode 604, and second insulating film 606 are all stacked in reverse order.

Here, the term "reverse order" is not understood.

[0065] ... and that a cathode terminal 702 in FIG. 7 does the other end of the cathode electrode 604 in the electrode body 610.

Here, the phrase is not proper idiomatic English.

Applicants' cooperation in correcting the specification is requested; please note that not all errors have been indicated.

Drawings

Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9, 10, 12, 13, 15-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Audit et al., US Patent 5,370,711A.

Audit et al. disclose a wound battery comprising offset anode and cathode plates with interposed separators. (See Fig. 4, reference numbers 48, 46, 50 and column 10, lines 32-43). The separator is a nonconductive, or insulating material. (See column 9, lines 24-34). It is noted that the “offset areas” disclosed by Audit et al. are identical to the “protrusions of electrodes” recited by the applicants. The sides of the electrode windings disclosed by Audit et al. press against a “current collector” having “protrusions”. (Note Figs. 1b, 6a and 6b and column 11, lines 51-67.) A comparison of applicants’ Fig. 7 and Audit et al. Fig. 1b show the “current collector” having “protrusions” disclosed by Audit et al. is identical to the “terminal” with a “contact extending part” recited by applicants.

With regards to instant claim 12, Audit et al. shows in Fig. 8 a battery with a plurality of electrode windings having “offset areas” which are identical to the “protrusions” recited by the applicants.

With regards to claims 9, 10, and 21, the "current collectors" with 'protrusions' (68) disclosed by Audit et al. are formed with O-rings (78) which are interpreted as "pressure adjusting means" and "rubber packings".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 11, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Audit et al., US Patent 5,370,711.

With regards to claim 6 and 20, Audit et al. do not specifically disclose metal layers on protrusions or offset areas. However, one of ordinary skill in the art would recognize the offset regions disclosed by Audit et al. must be electrically conductive regions in order for the battery to operate. Therefore, it would have been obvious to one of ordinary skill in the art to construct the offset regions from metal, which would naturally be metal at the surface layer. It is noted, however, that Audit et al. does not suggest electrode plates having a separate layer of a metal different from the substrate material at the offset areas/protrusions.

With regards to claim 7, it is noted that the claim is directed to a product per se, and thus limitations regarding the process by which the product is formed (plasma spray

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deposition) is not given patentable weight, unless applicants can demonstrate the recited process results in a product distinct from the prior art. The courts have held that the patentability of a product is independent of how it was made. *Ex parte Jungfer* 18 USPQ 1796, 1800 (BPAI 1991); *Bristol-Myers Co. v. U.S. International Trade Commission* 15 USPQ 2d 1258 (Fed. Cir. 1989). The burden is on applicants to show product differences in product by process claims. *In re Thorpe* 227 USPQ 964 (Fed. Cir. 1985); *In re Best* 195 USPQ 430 (CCPA 1977).

With regards to claim 8, Audit et al. disclose applicants' invention essentially as claimed, with the exception that Audit et al. do not discuss the compositions of the offset regions of the electrode windings and the compositions of the current collectors. However, it would have been obvious to one of ordinary skill in the art to use the same materials for the anode and the anode terminal, and the same material for the cathode and the cathode terminal because these combinations of material will decrease extraneous galvanic reactions within cells.

With regards to claims 11 and 22, Audit et al. disclose applicants' invention essentially as claimed with the exception that Audit et al. do not disclose a terminal or current collector with intersecting grooves on the bottom of the terminal or current collector piece. However, Audit et al. disclose essentially any indentation pattern in the current collector/terminal piece may be used, and suggest punched or drilled holes may be used. A pattern of holes is also considered to be a pattern with intersecting grooves. (Column 12, lines 22-42.)

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of Audit et al. fails to suggest incorporating an anti-explosive valve on the battery current collector/contact terminal. Incorporating such a feature into the current collector of Audit et al. would appear to result in less mechanical and electrical contact between electrode plates and current collectors, and is therefore not considered to be an obvious modification of the Audit et al. invention.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pate, US Patent 6,214,490 B1 discloses improved current collectors for batteries.

Juergens, US Patent 5,368,961 A discloses electrode configurations for spirally wound batteries.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Carol Chaney
Primary Examiner
Art Unit 1745

cc
January 25, 2003